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(54) Title: AUTOMATIC IDENTIFICATION OF BIOAGENTS

(57) Abstract: Automated rapid identification of unknown bioagents is enabled using a self-contained device coupled to a system executive module. The device includes two decks separated by an airtight and a storage area for storing reagents and filter plates for use in identifying bioagents. A programmable robot assembly isolates and purifies DNA from the bioagent in the first deck and prepares the sample for PCR. The first deck is preferably maintained at a higher atmospheric pressure than the area external to the device, while the second deck is maintained at a lower atmospheric pressure than the external area to avoid contamination. After isolation and purification, the sample is passed through the airtight to the second deck, where it undergoes PCR. After washing and eluting of the sample, the molecular mass of the sample is determined by mass spectroscopy. The system executive provides automated request handling, job scheduling, resource management and drill-down analysis.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/15123

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 33/48

US CL : 702/19

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/4,6; 702/19,20,22; 703/11

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0028923 A1 (Cowser et al.) 7 March 2002 (07.03.2002), see especially Abstract, Figures 1-5, and paragraphs 0023-0026 and 0050-0117.	1-10 and 16
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Y		11-15
Y	US 2002/0090320 A1 (Burrow et al.) 11 July 2002 (11.07.2002), see especially Abstract, Figures 1, 3, 4, and 7, paragraphs 0009-0025 and 0040-0097.	11-15
Y,P	US 6,856,914 A (Pelech) 15 February 2005 (15.02.2005), see entire document	1-16

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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Continuation of B. FIELDS SEARCHED Item 3:

EAST, Biosis, Medline, CAPlus

search terms: identify, mass spectroscopy, PCR, polymerase chain reaction, computer, program, request, protocol, instruction, robotic, airlock, thermocycler, temperature control, seal